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09/851,408	05/07/2001	Bruce C. Rothaar	060783/P002US/10102073	1883
29053	7590	06/14/2005	EXAMINER	
DALLAS OFFICE OF FULBRIGHT & JAWORSKI L.L.P.			WILLIAMS, LAWRENCE B	
2200 ROSS AVENUE			ART UNIT	
SUITE 2800			PAPER NUMBER	
DALLAS, TX 75201-2784			2638	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/851,408

Applicant(s)

ROTHAAR ET AL.

Examiner

Lawrence B Williams

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on amendment filed on 18 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. 1.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments, see Remarks, filed 18 January 2001, with respect to the rejection(s) of claim(s) 1-30 under 35 USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Pecan US Patent 6,603,825 B1 and Jagger et al. US Patent 6,807,405 B1).

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 6, 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pecan (US Patent 6,603,805 B1) in view of Jagger et al. (US Patent 6,807,405 B1).

(1) With regard to claim 1, Pecan discloses in Fig. 3, an automatic gain control system (118) comprising: means for detecting statistical information of RF interference and means operable, at least in part for directing the gain of the gain control circuit (col. 4, lines 13-28).

Pecan does not however disclose means for tabulating statistical information about periodicity and duration of RF interference.

However, Jagger et al. discloses means for tabulating statistical information about periodicity and duration of RF interference (col. 5, lines 21-34).

It would have been obvious to one skilled in the art at the time of invention to combine the teachings of Jagger et al. with the invention of Pecan as a method of reducing the adverse effects of interference (col. 2, lines 44-59).

(2) With regard to claim 2, Jagger et al. also discloses wherein said means for tabulating also tabulates statistical information about the strength of said RF interference (claim 1).

(3) With regard to claim 3, Jagger et al. also discloses wherein the means for tabulating comprises means for detecting the interference (claim 4).

(4) With regard to claim 6, Pecan also discloses wherein said means for directing includes means for selecting at least one action from of a group of actions to reduce effects of said interference, said group of actions consisting of: maintaining gain levels, ignoring said interference; adjusting gain levels in response to gain of said signals; raising gain level prior to onset of said interference; lowering gain level prior to onset of said interference; raising gain levels at cessation of said interference; and lowering gain levels at cessation of said interference (col. 3, line 63- col. 4, line 28).

(5) With regard to claim 13, claim 13 inherits all limitations of claim 1 above as claim 13 simply discloses the method implemented by the automatic gain control circuit disclosed in the prior art.

(6) With regard to claim 14, claim 14 inherits all limitations of claims 2 and 13 above.

(7) With regard to claim 15, claim 15 inherits all limitations of claims 3 and 13 above.

(8) With regard to claim 16, Pecan also discloses in Fig. 3, wherein the detecting step includes receiving interference on an antenna. They do not explicitly disclose wherein the means for detecting comprises an antenna. However, the examiner notes that it would be inherent, since

the interference would accompany the signal and the signal would be detected by an antenna, therefore the interference would also be detected by the antenna.

(9) With regard to claim 17, Jagger et al. also discloses wherein the means for detecting comprises means for monitoring an RF data stream for the interference (claim 1).

(10) With regard to claim 18, Pecan also discloses wherein said means for directing includes means for selecting at least one action from of a group of actions to reduce effects of said interference, said group of actions consisting of: maintaining gain levels, ignoring said interference; adjusting gain levels in response to gain of said signals; raising gain level prior to onset of said interference; lowering gain level prior to onset of said interference; raising gain levels at cessation of said interference; and lowering gain levels at cessation of said interference (col. 3, line 63- col. 4, line 28).

(11) With regard to claim 19, claim 19 inherits all limitations of claim 13 and 18 above.

1. Claims 4, 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pecan (US Patent 6,603,805 B1) above in combination with Jagger et al. (US Patent 6,807,405 B1) as applied to claim 3 and further in view of Hiramatsu et al. (US Patent 6,463,261).

(1) With regard to claim 4, as noted above, Pecan in combination with Jagger et al. discloses all limitations of claim 3 above. They do not however explicitly disclose wherein the means for detecting comprises an antenna. However, the examiner notes that it would be inherent, since the interference would accompany the signal and the signal would be detected by an antenna, therefore the interference would also be detected by the antenna.

However, Hiramatsu et al. discloses in Fig. 2, an antenna for detecting interference from an undesired source. It would have been obvious to one of ordinary skill in the art at the time of invention to provide the teachings of Hiramatsu et al. to the invention of Pecen in combination with Jagger et al. as a method of eliminating interference in the system.

(5) With regard to claim 5, Jagger et al. also discloses wherein the means for detecting comprises means for monitoring an RF data stream for the interference (claim 1).

2. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pecen (US Patent 6,603,805 B1) above in combination with Jagger et al. (US Patent 6,807,405 B1) as applied to claim 6 above and further in view of Sanderford et al. (US Patent 5,668,828).

As noted above, Pecen in combination with Jagger et al. disclose all limitations of claim 6. They do not however disclose means operable at least in part, to certain tabulated statistics for scheduling transmissions to avoid said interference.

However, Sanderford, Jr. et al. teaches means operable at least in part, to certain tabulated statistics for scheduling transmissions to avoid said interference (col. 3, lines 17-40).

It would have been obvious to one skilled in the art at the time of invention to combine the teachings of Pecen in combination with Jagger et al. as a method of minimizing data collisions (col. 1, line 65 - col. 2, line 11).

3. Claims 8, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pecen (US Patent 6,603,805 B1) in combination with Jagger et al. (US Patent 6,807,405 B1) in view of

Art Unit: 2634

Hiramatsu et al. (US Patent 6,463,261) as applied to claim 6 above and further in view of Eidson et al. (US Patent 6,256,477 B1).

(1) With regard to claim 8, as noted above, Pecen in combination with Jagget al. and Hiramatsu et al. disclose all limitations of claim 6 above. They do not however explicitly disclose means operable, at least in part, to certain tabulated statistics for changing an RF frequency of transmissions.

However, Eidson et al discloses means operable, at least in part, to certain tabulated statistics for changing an RF frequency of transmissions (col. 3, line 1- 15).

It would have been obvious to one skilled in the art at the time of invention to apply the teachings of Eidson et al. to the invention of Pecen in combination with Jagget al. and Hiramatsu et al. as a known method of mitigating interference in an RF system.

(2) With regard to claim 11, Eidson et al. also discloses means operable, at least in part, to certain tabulated statistics for equalizing multipath events of an RF transmission (col. 3, lines 1-15).

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pecen (US Patent 6,603,805 B1) in view of Jagger et al. (US Patent 6,807,405 B1) as applied to claim 6 above and further in view of Lempiainen (US Patent 6,510,312 B1).

(1) With regard to claim 9, as noted above, Pecen in combination with Jagger al. disclose all limitations of claim 6 above. They do not however disclose means operable at least in part, to certain tabulated statistics for changing antenna polarity of RF transmissions.

However, Lempiainen teaches means operable at least in part, to certain tabulated statistics for changing antenna polarity of RF transmissions (abstract, col. 1, lines 55-63).

It would have been obvious to one skilled in the art at the time of invention to combine the teachings of Lempiainen with those of Pecen in combination with Jagger et al. as a method of reducing intercellular interference (col. 1, lines 42-63).

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pecen (US Patent 6,603,805 B1) in view of Jagger et al. (US Patent 6,807,405 B1) as applied to claim 6 above and further in view of Gutleber (US Patent 4,457,007).

As noted above, Pecen in combination with Jagger et al. disclose all limitations of claim 6. They do not however disclose means operable at least in part, to certain tabulated statistics for performing waveform subtraction of said interference.

However, Gutleber teaches means operable at least in part, to certain tabulated statistics for performing waveform subtraction of said interference (abstract).

It would have been obvious to one of ordinary skill in the art at the time of invention to apply the method as taught by Gutleber to the invention of Pecen in combination with Jagger et al. as a method of reducing interference caused by multipath returns (col. 1, lines 46-57).

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pecen (US Patent 6,603,805 B1) in view of Jagger et al. (US Patent 6,807,405 B1) as applied to claim 6 above and further in view of Gutleber (US Patent 4,457,007).

As noted above, Pecen in combination with Jagger et al. disclose all limitations of



claim 6. They do not however disclose means operable at least in part, to certain tabulated statistics for increasing forward error correction of a transmission.

However, Gould et al. teaches means operable at least in part, to certain tabulated statistics for increasing forward error correction of a transmission (col. 5, lines 39-52).

It would have been obvious to one skilled in the art at the time of invention to apply the method as taught by Gould et al. to the invention of Pecen in combination with Jagger et al. as a more accurate method of rejecting invalid signals in a communications system.

7. Claims 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pecen (US Patent 6,603,825) in view of Jagger et al. (US Patent 6,807,405 B1).

(1) With regard to claim 20, Pecen discloses in Fig. 3, a circuit for an RF data transmission system, said circuit comprising: a digital delay stage delaying incoming RF data signals and outputting delayed RF signals, a variable gain stage (304) receiving said delayed IF signals and outputting gain adjusted IF signals to a demodulator for said system; means for monitoring RF interference (inherent for monitoring the bit error rate) and means for controlling (114) the variable gain in response to detected statistical information to adjust gain of the delayed IF signals mitigating effects of said RF interference on said signals (col. 4, lines 13-28).

Pecen does not however disclose means for gathering statistical information about RF interference.

Pecen does not however disclose means for tabulating statistical information about periodicity and duration of RF interference.

However, Jagger et al. discloses means for tabulating statistical information about periodicity and duration of RF interference (col. 5, lines 21-34).

It would have been obvious to one skilled in the art at the time of invention to combine the teachings of Jagger et al. with the invention of Pecan as a method of reducing the adverse effects of interference (col. 2, lines 44-59).

(2) With regard to claim 21, Jagger et al. also discloses wherein said means for gathering also gathers statistical information about the strength of said R.F interference (claim 1).

(3) With regard to claim 22, Pecan also discloses in Fig. 3, wherein the detecting step includes receiving interference on an antenna. Pecan does not explicitly disclose wherein the means for detecting comprises an antenna. However, the examiner notes that it would be inherent, since the interference would accompany the signal and the signal would be detected by an antenna, therefore the interference would also be detected by the antenna.

(4) With regard to claim 23, Jagger et al. also discloses wherein the means for monitoring comprises means for analyzing RF signals for interference (claim 1).

(4) With regard to claim 24, Pecan also discloses wherein said means for directing includes means for selecting at least one action from of a group of actions to reduce effects of said interference, said group of actions consisting of: maintaining gain levels, ignoring said interference; adjusting gain levels in response to gain of said signals; raising gain level prior to onset of said interference; lowering gain level prior to onset of said interference; raising gain levels at cessation of said interference; and lowering gain levels at cessation of said interference (col. 3, line 63- col. 4, line 28).

8. Claims 25-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pecen (US Patent 6,603,805 B1) above in combination with Jagger et al. (US Patent 6,807,405 B1) as applied to claim 20 above and further in view of Sanderford et al. (US Patent 5,668,828).

(1) With regard to claim 25, as noted above, Pecen in combination with Jagger et al. disclose all limitations of claim 20. They do not however explicitly disclose means for responding to said gathered statistical information by directing said system to select from a group of actions to mitigate effects of said interference, said group of actions consisting of: scheduling transmissions to avoid said interference, changing an RF frequency of transmissions; changing antenna polarity of RF transmissions; performing waveform subtraction of said interference; equalizing multipath events of an RF transmission; and increasing forward error correction of a transmission.

However, Sanderford et al. discloses means for responding to said gathered statistical information by directing said system to select from a group of actions to mitigate effects of said interference, said group of actions consisting of: scheduling transmissions to avoid said interference, changing an RF frequency of transmissions; changing antenna polarity of RF transmissions; performing waveform subtraction of said interference; equalizing multipath events of an RF transmission; and increasing forward error correction of a transmission (col. 3, lines 17-40).

It would have been obvious to one skilled in the art at the time of invention to combine the teachings of Pecen in combination with Jagger et al. as a method of minimizing data collisions (col. 1, line 65 - col. 2, line 11).

(2) With regard to claim 26, claim 26 inherits all limitations of claim 20, above.

- (3) With regard to claim 27, claim 27 inherits all limitations of claims 23 and 26.
- (4) With regard to claim 28, claim 28 inherits all limitations of claims 22 and 26.
- (5) With regard to claim 29, claim 29 inherits all limitations of claims 24 and 26.
- (6) With regard to claim 30, claim 30 inherits all limitations of claims 25 and 29.

*Conclusion*

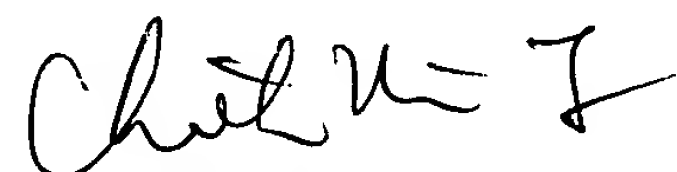
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence B Williams whose telephone number is 571-272-3037. The examiner can normally be reached on Monday-Friday (8:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 571-272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Lawrence B. Williams

lbw  
June 12, 2005

  
**CHIEH M. FAN**  
**PRIMARY EXAMINER**